

What is claimed is:

100 Q3

1. A method of implanting an end portion of a graft in the body of a patient during a bypass grafting procedure, comprising the steps of:
- 5 advancing a medical instrument within a blood vessel of said body;
 guiding a distal end of said medical instrument out of said blood vessel through an opening defined in said blood vessel after said medical instrument advancing step;
 advancing said end portion of said graft through said medical instrument
10 after said guiding step; and
 securing said end portion of said graft to said blood vessel after said end portion advancing step.
2. The method of claim 1, wherein said opening defined in said blood
15 vessel is laparoscopically created.
3. The method of claim 1, further comprising the step of placing said medical instrument into said blood vessel at a femoral artery, wherein:
 said medical instrument placing step is performed prior to said medical
20 instrument advancing step.
4. The method of claim 1, wherein said medical instrument is a catheter.
5. The method of claim 1, wherein:
- 25 said blood vessel includes an occluded segment, and
 said medical instrument advancing step includes the step of advancing said medical instrument within said blood vessel of said body toward said occluded segment.

6. The method of claim 5, wherein:
said opening defined in said blood vessel is located at a first side of said occluded segment, and

5 said end portion securing step includes the step of securing said end portion of said graft to said blood vessel at a second side of said occluded segment.

7. The method of claim 1, wherein said graft is made of synthetic fibers.

10 8. A method of delivering a graft to a working site within the body of a patient during a bypass grafting procedure, comprising the steps of:

advancing a medical instrument within a blood vessel of said body;
guiding a first portion of said medical instrument through an opening defined in said blood vessel after said medical instrument advancing step so that
15 (i) said first portion of said medical instrument is located outside of said blood vessel, and (ii) a second portion of said medical instrument is located within said blood vessel; and

advancing said graft through said medical instrument to said working site while (i) said first portion of said medical instrument is located outside of said
20 blood vessel, and (ii) said second portion of said medical instrument is located within said blood vessel.

9. The method of claim 8, wherein said opening defined in said blood vessel is laparoscopically created.

25 10. The method of claim 8, further comprising the step of placing said medical instrument into said blood vessel at a femoral artery, wherein:

said medical instrument placing step is performed prior to said medical instrument advancing step.

11. The method of claim 8, wherein said medical instrument is a catheter.

12. The method of claim 8, wherein:

said blood vessel includes an occluded segment, and

5 said medical instrument advancing step includes the step of advancing
said medical instrument within said blood vessel of said body toward said
occluded segment.

13. The method of claim 8, wherein said graft is made of synthetic fibers.

10 14. A method of implanting an end portion of a graft within the body of a
patient during a bypass grafting procedure, comprising the steps of:

advancing a medical instrument within a circulatory system of said body;

guiding a distal end portion of said medical instrument out of said

15 circulatory system through an opening defined in said circulatory system after
said medical instrument advancing step so that (i) a first portion of said medical
instrument is located outside of said circulatory system, and (ii) a second portion
of said medical instrument is located within said circulatory system;

20 advancing said end portion of said graft through said medical instrument
while (i) said first portion of said medical instrument is located outside of said
circulatory system, and (ii) said second portion of said medical instrument is
located within said circulatory system; and

securing said end portion of said graft to a blood vessel of said circulatory
system after said end portion advancing step.

25 15. The method of claim 14, wherein said opening defined in said
circulatory system is laparoscopically created.

16. The method of claim 14, further comprising the step of placing said medical instrument into said circulatory system at a femoral artery, wherein:

said medical instrument placing step is performed prior to said medical instrument advancing step.

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17. The method of claim 14, wherein said medical instrument is a catheter.

18. The method of claim 14, wherein:

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said circulatory system includes an occluded segment, and

said medical instrument advancing step includes the step of advancing said medical instrument within said circulatory system of said body toward said occluded segment.

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19. The method of claim 18, wherein:

said opening defined in said circulatory system is located at a first side of said occluded segment, and

said end portion securing step includes the step of securing said end portion of said graft to said circulatory system at a second side of said occluded segment.

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20. The method of claim 14, wherein said graft is made of synthetic fibers.

21. A method of delivering a graft to a working site within the body of a patient during a bypass grafting procedure, comprising the steps of:

advancing a medical instrument within a blood vessel of said body;

guiding a distal end portion of said medical instrument through an opening
5 defined in said blood vessel after said medical instrument advancing step so that
(i) a first portion of said medical instrument is located outside of said blood
vessel, and (ii) a second portion of said medical instrument is located within said
blood vessel; and

advancing said graft within said medical instrument toward said working
10 site while (i) said first portion of said medical instrument is located outside of said
blood vessel, and (ii) said second portion of said medical instrument is located
within said blood vessel.

22. The method of claim 21, wherein said opening defined in said blood
15 vessel is laparoscopically created.

23. The method of claim 21, further comprising the step of placing said
medical instrument into said blood vessel at a femoral artery, wherein:

said medical instrument placing step is performed prior to said medical
20 instrument advancing step.

24. The method of claim 21, wherein said medical instrument is a
catheter.

25. The method of claim 21, wherein:

said blood vessel includes an occluded segment, and

said medical instrument advancing step includes the step of advancing
said medical instrument within said blood vessel of said body toward said
occluded segment.

26. The method of claim 21, wherein said graft is made of synthetic fibers.

27. A method of delivering an end portion of a graft to a working site
5 within the body of a patient during a bypass grafting procedure, comprising the steps of:

advancing a medical instrument within a circulatory system of said body;
guiding a distal end portion of said medical instrument through an opening
defined in said circulatory system after said medical instrument advancing step;
10 and

advancing said end portion of said graft within said medical instrument
toward said working site after said distal end portion guiding step.

28. The method of claim 27, wherein said opening defined in said
15 circulatory system is laparoscopically created.

29. The method of claim 27, further comprising the step of placing said
medical instrument into said circulatory system at a femoral artery, wherein:

said medical instrument placing step is performed prior to said medical
20 instrument advancing step.

30. The method of claim 27, wherein said medical instrument is a
catheter.

25 31. The method of claim 27, wherein:
said circulatory system includes an occluded segment, and
said medical instrument advancing step includes the step of advancing
said medical instrument within said circulatory system of said body toward said
occluded segment.

32. The method of claim 27, wherein said graft is made of synthetic fibers.

33. A method of delivering an implantable medical apparatus to a working site within the body of a patient during a medical procedure, comprising the steps of:

advancing a medical instrument within a circulatory system of said body;
guiding a distal end portion of said medical instrument through an opening defined in said circulatory system after said medical instrument advancing step so that (i) a first portion of said medical instrument is located outside of said circulatory system, and (ii) a second portion of said medical instrument is located within said circulatory system; and

advancing said implantable medical apparatus within said medical instrument toward said working site while (i) said first portion of said medical instrument is located outside of said circulatory system, and (ii) said second portion of said medical instrument is located within said circulatory system.

34. The method of claim 33, wherein said implantable medical apparatus is a graft.

35. The method of claim 34, wherein said graft is made of synthetic fibers.

36. The method of claim 33, wherein said opening defined in said circulatory system is laparoscopically created.

37. The method of claim 33, further comprising the step of placing said medical instrument into said circulatory system at a femoral artery, wherein:
said medical instrument placing step is performed prior to said medical instrument advancing step.

38. The method of claim 33, wherein said medical instrument is a catheter.

39. The method of claim 33, wherein:
5 said circulatory system includes an occluded segment, and
 said medical instrument advancing step includes the step of advancing
 said medical instrument within said circulatory system of said body toward said
 occluded segment.

10 40. A method of implanting an end portion of a graft in the body of a
 patient during a bypass grafting procedure, comprising the steps of:
 advancing a medical instrument within a circulatory system of said body;
 guiding a distal end of said medical instrument out of said circulatory
 system through an opening defined in said circulatory system after said medical
15 instrument advancing step;
 advancing said end portion of said graft within said medical instrument
 after said guiding step; and
 securing said end portion of said graft to a blood vessel of said circulatory
 system after said end portion advancing step.

20 41. The method of claim 40, wherein said opening defined in said
 circulatory system is laparoscopically created.

25 42. The method of claim 40, further comprising the step of placing said
 medical instrument into said circulatory system at a femoral artery, wherein:
 said medical instrument placing step is performed prior to said medical
 instrument advancing step.

43. The method of claim 40, wherein said medical instrument is a catheter.

44. The method of claim 40, wherein:
5 said circulatory system includes an occluded segment, and
said medical instrument advancing step includes the step of advancing
said medical instrument within said circulatory system of said body toward said
occluded segment.

10 45. The method of claim 44, wherein:
said opening defined in said circulatory system is located at a first side of
said occluded segment, and
said end portion securing step includes the step of securing said end
portion of said graft to said blood vessel of said circulatory system at a second
15 side of said occluded segment.

46. The method of claim 40, wherein said graft is made of synthetic
fibers.

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